REMARKS

Claims 22-32 and 34-43 are pending in the present application. By this Amendment, previously presented claims 32 and 43 have been amended. Applicants respectfully request reconsideration of the present claims in view of the foregoing amendments and the following remarks.

I. Formal Matters:

October 13, 2010 Telephone Interview

Applicants thank Examiner Kaucher for discussing the present patent application with Applicants' representative, James D. Withers, during an October 13, 2010 telephone interview.

Rejection of Previously Presented Claims 32 and 43 Under 35 U.S.C. §112, Second Paragraph

Previously presented claims 32 and 43 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant respectfully traverses this rejection.

Applicants have amended previously presented claims 32 and 43 as shown above to address the concerns of Examiner Kaucher as outlined in the October 22, 2010 Office Action.

In view of the amendments to previously presented claims 32 and 43, Applicants respectfully submit that claims 32 and 43 meet the definiteness requirements of 35 U.S.C. §112, second paragraph. Accordingly, Applicants request withdrawal of this rejection.

II. Prior Art Rejections:

Rejection of Previously Presented Claims 22-24 and 39-40 Under 35 U.S.C. §102(b) In View of EP 0551796 (Lo)

Previously presented claims 22-24 and 39-40 stand rejected under 35 U.S.C. §102(b) as being anticipated by European Patent Application Publication No. 0551796 to Lo et al. (hereinafter, "Lo"). This rejection is respectfully traversed.

In order for the disclosure of Lo to anticipate Applicants' claimed invention as

embodied in independent claims 22 and 40, the disclosure of Lo must disclose each and every claim feature recited in independent claims 22 and 40. See, for example, *Finnigan Corp. v. International Trade Commission*, 180 F.3d 1354, 1365, 51 USPQ2d 1001, 1009 (Fed. Cir. 1999), in which the Court stated "In order to establish anticipation, a prior art reference must disclose every feature of the claimed invention."

The disclosure of Lo fails to disclose at least the following claim features recited in Applicants' independent claims 22 and 40:

(1) a particulate suspension comprising the reaction product of (i) a polymeric stabiliser having a hydrophilic moiety and a hydrophobic moiety and comprising a plurality of vinylic monomers, not being exclusively of vinylic esters or of their hydrolysed products, at least some of which contain functional groups capable of undergoing cross-linking nucleophilic or condensation reactions, and (ii) one or more substances contained in a liquid phase of the suspension and capable of undergoing a cross-linking reaction with the functional groups of the polymeric stabilizer (claims 22 and 40).

The October 22, 2011 Office Action appears to suggests that (1) the disclosure of Lo discloses a reaction product resulting from the reaction of (i) the disclosed styrene-maleic anhydride copolymer salt surfactant with (ii) the disclosed polyamine used to form the capsule wall of the microcapsules, and (2) this alleged reaction product and the other disclosed components in the microcapsule suspension of Lo anticipate Applicants' claimed invention. See, for example, page 4, paragraph 10 of the October 22, 2010 Office Action.

Applicants note that Lo does not disclose, teach or suggest such a reaction product resulting from the reaction of (i) the disclosed styrene-maleic anhydride copolymer salt surfactant with (ii) the disclosed polyamine used to form the capsule wall of the microcapsules.

In lines 15-18 on page 4 of the October 22, 2010 Office Action, Examiner Kaucher appears to suggest that the polymer used to form the capsule wall, not the alleged disclosed styrene-maleic anhydride copolymer salt surfactant reacted with the disclosed polyamine, as discussed above, is the reaction product as recited in Applicants' claims 22 and 40, and that this polymer is present relative to the suspended solid at Applicants' claimed weight ratio.

Applicants respectfully submit that the polymer used to form the capsule wall of the disclosed microcapsules is not the reaction product as recited in Applicants' claims 22 and 40, namely, the reaction product of (i) a polymeric stabiliser having a hydrophilic moiety and a hydrophobic moiety and comprising a plurality of vinylic monomers, not being exclusively of vinylic esters or of their hydrolysed products, at least some of which contain functional groups capable of undergoing cross-linking nucleophilic or condensation reactions, and (ii) one or more substances contained in a liquid phase of the suspension and capable of undergoing a cross-linking reaction with the functional groups of the polymeric stabilizer.

For at least the reasons given above, the disclosure of Lo cannot anticipate Applicants' claimed invention as embodied in amended independent claims 22 and 40. Since claims 23-24 and 39 depend from independent claim 22 and recite additional claim features, the disclosure of Lo cannot anticipate Applicants' claimed invention as embodied in dependent claims 23-24 and 39. Accordingly, Applicants respectfully request withdrawal of this rejection.

Rejection of Previously Presented Claims 22-26, 28-32, 34 and 39-43 Under 35 U.S.C. §103(a) In View Of U.S. Patent No. 6,262,152 (Fryd) Further In View Of WO 02/082900 (Crooks)

Previously presented claims 22-26, 28-32, 34 and 39-43 stand rejected under 35 U.S.C. §103(a) as being unpatentable in view of U.S. Patent No. 6,262,152 issued to Fryd et al. (hereinafter, "Fryd"), and further in view of International Patent Application Publication No. WO 02/082900 to Crooks et al. (hereinafter, "Crooks"). This rejection is respectfully traversed.

As discussed in Applicants' January 22, 2010 Amendment and Response, Applicants' June 15, 2010 Amendment and Response, and Applicants' September 15, 2010 RCE Request, the "Background" section of Applicants' original specification describes in great detail the differences between the compositions of Fryd and Applicants' claimed invention. See, for example, Applicants' original specification, from page 1, line 3 to page 2, line 14, and from page 3, line 29 to page 4, line 32. One key difference between the compositions of Fryd and Applicants' claimed particulate suspensions is Applicants' claimed ratio by weight of "(a) the polymeric stabiliser prior to cross-linking to (b) the suspended solid" with Applicants' claimed ratio being less than 1 part of polymeric stabiliser per 5 parts of suspended solid by weight. The teaching of Fryd fails to disclose, teach or suggest such a weight ratio for the disclosed polymer

dispersant and solid in the compositions of Fryd.

As further discussed in Applicants' January 22, 2010 Amendment and Response and Applicants' September 15, 2010 RCE Request, the only teaching in Fryd regarding the ratio of polymer dispersant to solid is in the examples, wherein Fryd discloses a ratio of 10 parts of polymer dispersant to 15 parts of solid by weight in the following examples: Example 1, column 9, lines 2-3; Example 2, column 10, lines 35-36; Example 3, column 12, lines 7-8; Example 4, column 13, lines 30-31; Example 5, column 14, lines 53-54; and Example 6, column 16, lines 12-13. Fryd discloses a ratio of 1 part of polymer dispersant to 2.5 parts of solid by weight in Example 7, column 16, lines 35-36.

Given the above-noted teaching of Fryd regarding the weight ratio of polymer dispersant to solid, Applicants respectfully submit that the teaching of Fryd actually teaches away from Applicants' claimed ratio of less than 1 part of polymeric stabiliser per 5 parts of suspended solid by weight. The teaching of Fryd appears to suggest to one skilled in the art the need to utilize a weight ratio of polymer dispersant to solid material of at least 1 part polymer dispersant to 2.5 parts solid material.

In response to Applicants' January 22, 2010 Amendment and Response and Applicants' September 15, 2010 RCE Request, the October 22, 2010 Office Action states the following in paragraph 17, lines 12-21 on page 6:

> However, Fryd is silent on disclosing [the] a ratio of less than 1:5 polymer to solid.
> Crooks teaches similar aqueous suspensions. See abstract and examples. Crooks teaches that, in agrichemical compounds, the amount of polymeric stabilizer is preferably 100 pbw to 500 pbw (at least 1:5) agrochemical ingredient in order to reduce cost and be environmentally friendly. See page 5, lines 15-32 of Crooks.
> It would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the compositions of Fryd via utilizing amounts of polymeric stabilizer to agrichemical compound in ratios of 1:5 or less as taught by Crooks because one would want to reduce cost and be environmentally friendly. See page 5, lines 15-32 of Crooks.

Applicants disagree.

The teaching of Crooks is directed to aqueous suspensions of nanoparticles, wherein the nanoparticles comprise (i) a water-insoluble agrochemical encapsulated by (ii) an amphiphilic compound comprising at least one hydrophilic moiety and at least one hydrophobic

moiety. The teaching of Crooks discloses a weight ratio of (i) water-insoluble agrochemical to (ii) amphiphilic compound of at least 50 parts by weight (pbw) agrochemical to 100 pbw amphiphilic compound, and in some embodiments, at least 500 pbw agrochemical to 100 pbw amphiphilic compound.

The October 22, 2010 Office Action suggests that one skilled in the art, given the teaching of Fryd, would have been motivated to (1) seek out the teaching of Crooks directed to aqueous suspensions of nanoparticles, (2) consider the aqueous suspension components of Crooks (e.g., agrochemical, amphiphilic compound, etc.), as well as the weight ratio of agrochemical to amphiphilic compound as disclosed in Crooks, and (3) utilize the weight ratio of agrochemical to amphiphilic compound, as disclosed in Crooks, in the particle dispersions of Fryd, but not utilize the aqueous suspensions of nanoparticles as disclosed in Crooks.

It is difficult for Applicants to understand why one skilled in the art, given the teaching of Fryd, would have (1) sought out the teaching of Crooks, (2) considered the aqueous suspension components of Crooks, as well as the weight ratio of agrochemical to amphiphilic compound as disclosed in Crooks, and (3) subsequently utilized the weight ratio of agrochemical to amphiphilic compound, as disclosed in Crooks, for the particle dispersion components of Fryd instead of the aqueous suspensions of nanoparticles with the disclosed weight ratio agrochemical to amphiphilic compound as disclosed in Crooks. As discussed above, the teaching of Crooks is specifically directed to aqueous suspensions for encapsulating and suspending water insoluble agrochemicals in an aqueous liquid phase. In contrast, the teaching of Fryd is concerned with the dispersion of particles in paints, inks and coatings.

Applicants respectfully submit that the only motivation for (1) seeking out the teaching of Crooks directed to aqueous suspensions of nanoparticles, and (2) utilizing the weight ratio of agrochemical to amphiphilic compound, as disclosed in Crooks, in the particle dispersions of Fryd instead of utilizing the aqueous suspensions of nanoparticles as disclosed in Crooks has been gleaned from Applicants' own specification, not from the art of record. As Examiner Kaucher is aware, "One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention", *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988). For at least this reason, Applicants

respectfully submit that the proposed combination of the teaching of Fryd with the teaching of Crooks is improper.

Applicants further submit that if one skilled in the art would have been motivated to consider the proposed combination of the teaching of Fryd with the teaching of Crooks, one skilled in the art would have been more likely to utilize the disclosed aqueous suspension of nanoparticles to suspend water-insoluble agrochemicals in an aqueous liquid phase as disclosed in the teaching of Crooks, as oppose to the particle dispersions disclosed in Fryd. For this reason, Applicants respectfully submit that the proposed combination of the teaching of Fryd with the teaching of Crooks, even if proper (and for the reasons given above, Applicants submit that the proposed combination of the teachings of Fryd and Crooks is improper), actually teaches away from Examiner Kaucher's proposed modification of the teaching of Fryd. As stated by the Court, "It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art", *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 447, 230 USPQ 416, 419 (Fed. Cir. 1986) (quoting *In re Wesslau*, 353 F.2d 238, 241, 147 USPQ 391, 393 (CCPA 1965)).

As discussed in Applicants' January 22, 2010 Amendment and Response and Applicants' September 15, 2010 RCE Request, the teaching of Fryd does not disclose, teach or suggest to one skilled in the art a need or desire to increase the solid content relative to the amount of polymeric dispersant for any of Fryd's disclosed dispersions, especially in view of the specific teaching of Fryd's examples showing at least 1 part polymer dispersant to 2.5 parts solid material, and in most cases, 1 part polymer dispersant to 1.5 parts solid material. The teaching of Fryd suggests to one skilled in the art to utilize a weight ratio of polymer dispersant to solid material of at least 1 part polymer dispersant to 2.5 parts solid material, and in most cases, 1 part polymer dispersant to 1.5 parts solid material.

Applicants respectfully submit that the teaching in Fryd provides guidance to one skilled in the art to utilize a weight ratio of 1 part polymer dispersant to 1.5 parts solid material in order to provide an encapsulation network that entraps particles for applications such as paints, inks and coatings. There is no suggestion in the teaching of Fryd or the teaching of Crooks that a

weight ratio of less than 1 part polymer dispersant to 1.5 parts solid material would be suitable in the teaching of Fryd. The teaching of Crooks makes it clear that weight ratios of as much as 500 pbw agrochemical to 100 pbw amphiphilic compound are possible with utilizing the agrochemical and amphiphilic compounds of Crooks; however, the teaching of Crooks does not suggest that a similar weight ratio would be suitable for the disclosed particles and polymer dispersants in the teaching of Fryd.

For at least the reasons given above, Applicants respectfully submit that the proposed combination of the teaching of Fryd with the teaching of Crooks fails to make obvious Applicants' claimed invention as recited in independent claims 22 and 40. Since claims 23-26, 28-32, 34, 39 and 41-43 depend from independent claims 22 and 40 and recite additional claim features, the proposed combination of the teaching of Fryd and the teaching of Crooks also fails to make obvious Applicants' claimed invention as recited in claims 23-26, 28-32, 34, 39 and 41-43. Accordingly, withdrawal of this rejection is respectfully requested.

Rejection of Previously Presented Claims 27 and 35-38 Under 35 U.S.C. §103(a) In View Of Fryd In Combination With Crooks and *Macromolecules*, 1998, 31, 538-541 (Jankova)

Previously presented claims 27 and 35-38 stand rejected under 35 U.S.C. §103(a) as being unpatentable in view of Fryd and further in view of (i) Crooks, and (ii) Jankova et al., *Macromolecules*, 1998, 31, 538-541 (hereinafter, "Jankova"). This rejection is respectfully traversed.

For reasons similar to those provided above, Applicants respectfully submit that one skilled in the art, given the teaching of Fryd, would not have (1) sought out (i) the teaching of Crooks directed to aqueous suspensions for water insoluble agrochemicals and (ii) the teaching of Jankova directed to amphiphilic PS-*b*-PEG-*b*-PS triblock copolymers; (2) considered (i) the aqueous suspension components of Crooks, as well as the weight ratio of agrochemical to amphiphilic compound as disclosed in Crooks, and (ii) the PEG monomers utilized in the teaching of Jankova; and (3) subsequently utilized (i) the PEG monomers utilized in the teaching of Jankova to form the polymer dispersant in Fryd, and (ii) the weight ratio of agrochemical to amphiphilic compound, as disclosed in Crooks, to formulate the resulting particle dispersion components of Fryd instead of utilizing the aqueous suspension of nanoparticles as disclosed in Crooks. The only motivation for (1) seeking out the teachings of Crooks and Jankova, (2)

modifying the particle dispersion of Fryd as proposed above, and (3) utilizing the resulting "modified" particle dispersion of Fryd instead of utilizing the aqueous suspensions of nanoparticles as disclosed in Crooks has been gleaned from Applicants' own specification, not from the art of record.

Applicants further submit that if one skilled in the art would have been motivated to consider the proposed combination of the teaching of Fryd with the teachings of Crooks and Jankova, one skilled in the art would have been more likely to utilize the disclosed aqueous suspension of nanoparticles to suspend water-insoluble agrochemicals in an aqueous liquid phase as disclosed in the teaching of Crooks, as oppose to the particle dispersions disclosed in Fryd. For this reason, Applicants respectfully submit that the proposed combination of the teaching of Fryd with the teachings of Crooks and Jankova, even if proper (and for the reasons given above, Applicants submit that the proposed combination of the teachings of Fryd, Crooks and Jankova is improper), actually teaches away from Examiner Kaucher's proposed modification of the teaching of Fryd.

Further, the teaching of Fryd actually teaches away from Applicants' claimed weight ratio of less than 1 part of polymeric stabiliser per 5 parts of suspended solid as recited in each of Applicants' claims. The teaching in Fryd provides guidance to one skilled in the art to utilize a weight ratio of 1 part polymer dispersant to 1.5 parts solid material in order to provide an encapsulation network that entraps particles for applications such as paints, inks and coatings. There is no suggestion in the teaching of Fryd or the teaching of Crooks or the teaching of Jankova that a weight ratio of less than 1 part polymer dispersant to 1.5 parts solid material would be suitable in the teaching of Fryd. The teaching of Crooks makes it clear that weight ratios of as much as 500 pbw agrochemical to 100 pbw amphiphilic compound are possible with utilizing the agrochemical and amphiphilic compounds of Crooks; however, the teaching of Crooks does not suggest that a similar weight ratio would be suitable for the disclosed particles and polymer dispersant in the teaching of Fryd.

For at least the reasons given above, Applicants respectfully submit that the proposed combination of the teaching of Fryd with the teaching of Crooks and the teaching of Jankova fails to make obvious Applicants' claimed invention as recited in independent claim 22. Since claims 27 and 35-38 depend from independent claim 22 and recite additional claim

features, the proposed combination of the teaching of Fryd with the teaching of Crooks and the teaching of Jankova also fails to make obvious Applicants' claimed invention as recited in claims 27 and 35-38. Accordingly, withdrawal of this rejection is respectfully requested.

III. Conclusion:

Applicants submit that claims 22-32 and 34-43 define patentable subject matter. Accordingly, Applicants respectfully request allowance of these claims.

Should Examiner Kaucher believe that further action is necessary to place the application in better condition for allowance, Examiner Kaucher is respectfully requested to contact Applicants' representative at the telephone number listed below.

No additional fees are believed due; however, the Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, to Deposit Account No. 503025.

Respectfully submitted,
WITHERS & KEYS, LLC
/James D. Withers/
By: James D. Withers
Reg. No. 40,376

WITHERS & KEYS, LLC
P.O. Box 2049
McDonough, Georgia 30253
678-485-8324

W&K Matter No.: 10075.0011USWO
Syngenta Docket No.: 70193